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The Coastal Plainer

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Message From The MO–Leader's Desk

By Charles Love, State Soil Scientist/ MO–15 Team Leader

Greetings to all!

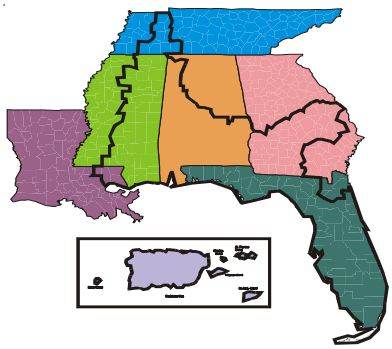
The past few months have been very exciting for all us here in the MO–15 Region. Great things are happening, and I have several topics to discuss.

Especially exciting is the population of the NASIS databases for soil correlation activities, SSURGO certification, RUSLE–2, and the 2003 CRP sign-up with FSA. The installation of T–1 computer connections has really accelerated the population and management of our NASIS databases at the field level. As we take this great opportunity to revise our databases, it is very important that we document our rationale for the revisions in text-note tables. We must keep a historical account for each revision that we make to the databases.

I know each soil survey office has received "MO–15 NASIS Text Guidelines." This document will help us maintain consistency in capturing soil business and correlation activities. I hope you are using the structure and organization provided in the document so that we can easily enter NASIS text notes. One of the reasons for putting notes into NASIS is to document why and when changes were made in the databases. The personnel who are managing the databases need to be able to retrieve these notes to see how past decisions have influenced the population of the database. If some effort is not made to keep these notes organized, the notes will be of little value in the future.

Notes should contain the following information, which is necessary for future database managers to understand why revisions were made:

MLRA Soil Survey Region #15



1. Indicate what data field is being changed.
2. Indicate where the data change occurred (especially if the change is in horizon data).
3. Include both old and new values.
4. Explain why the change is being made.
5. Indicate who made the change and when the change was made.

Again, as we continue to place emphasis on populating and revising NASIS databases for many of our soil survey activities and NRCS conservation programs, I encourage you to

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utilize "MO–15 NASIS Text Note Guidelines" as a tool to capture those decisions. We need to leave some rationale describing present-day decisions for our future soil scientists to build from.

If you have questions about using "MO–15 NASIS Text Note Guidelines," please contact the MO–15 team.

On another topic, I would like to share a few things with you concerning "Competitive Sourcing." At the winter MO-Leaders meeting in Little Rock, Arkansas, Tommy Calhoun presented the group with information concerning competitive sourcing. He said that the competitive sourcing initiative is a high priority on the President's Management Agenda, has bipartisan support, and is not going away. Therefore, it is important for us to look for potential benefits and opportunities to help get our work done. Tommy reviewed the functions that will be studied by NRCS in FY–03 for competitive sourcing. The study will review various soil survey activities, including soil mapping. He said that he is very impressed with Management Analysis Incorporated, the contractor that is drafting Performance Work Statements for the soil mapping function. Functions performed by soil scientists are being studied under the "Streamline Cost Comparison" process. Here in Alabama we are planning to participate in the study to determine the benefits for our cooperative soil survey program.

"What is a Contracting Officer's Technical Representative (COTR)," you ask?

We have identified five soil scientists to serve as a Contracting Officer's Technical Representative (COTR) for contracting soil survey activities (map compilation and field mapping). Later this year, these individuals will receive training related to "COTR" roles and responsibilities.

"What is a Contracting Officer's Technical Representative (COTR)," you ask?

Contracting Officer's Technical Representative (COTR): An individual designated in writing by the Contracting Officer to act as an authorized representative of the Contracting Officer to perform specific contract administrative functions (technical consultant) within the scope and limitations as defined by the Contracting Officer. The COTR does not have the authority to modify the contract.

On another topic, in the next month I will be developing a draft MO–15 MLRA Memorandum of Understanding (MOU) for our State Conservationists, State Soil Scientists, and cooperators to review and approve. Each MLRA-based soil survey office in which initial, update, or maintenance soil surveys are performed is to be covered by this umbrella MOU. It will not supercede any State MOUs or individual project MOUs. It is designed to streamline the development and implementation of MLRA-based MOUs across the region and nation.

The umbrella MO-MOU will be a working agreement between members of the board of directors for an individual region-wide, MLRA-based soil survey office. It will be signed and implemented by the MO–15 (Southeast Coastal Plain and Caribbean) board members and the MO leader.

In closing, I would like to announce that we will be hosting NASIS soils-interpretation training on June 10–12, 2003, at Auburn, Alabama. We have reserved six extra slots so we can accommodate one participant from each neighboring state. We are planning to have staff members from the NSSC help us in this training. State Soil Scientists within MO–15 region, if you are interested in sending someone from your state to this training, please notify me or Scott Anderson, SDQS, as soon as possible.

Have a nice upcoming spring! ■

A New Face in a New Place

By Doug Clendenon and Eddie E. Davis, Jr.

The North Alabama Regional Soil Survey Office, located in Huntsville, Alabama, has recently added to its team. Towards the latter part of 2002, Eddie E. Davis, Jr., became the newest addition as a Soil Scientist in the office. Although Eddie is perceived as a new employee, he is no stranger to the agency as a whole. While attending his undergraduate studies at Alabama A&M University, Eddie was a recipient of the USDA–NRCS 1890 Soil Science Scholarship. With his acceptance, the agency provided him with fundamental training as a soil scientist in Nacogdoches, Texas (Summer 2000), and Washington, Iowa (Summer 2001).

Eddie E. Davis, Jr., is a 22-year old native of Birmingham, Alabama. He graduated from Alabama A&M University with a B.S. in Environmental Science and a minor in Chemistry. However, being the new soil scientist in the office, he is also pursuing his Master's degree. He is seeking his Master's in Urban & Regional Planning (MURP) with a specialty in Environmental Planning from Alabama A&M University, the only university in the State of Alabama where this degree is accredited at the Master's level.

Between his previous exposure provided by NRCS and the supervision of the North Alabama Regional Soil Survey Team Leader, Doug Clendenon, Eddie will become an excellent soil scientist in the years to come. Eddie is looking forward to helping with establishing and structuring the new North Alabama Regional Soil Survey Office (NARSSO). He is presently working on updates for the Soil Surveys of Madison and Limestone Counties, Alabama. As another part of his duties, he is developing a Web page for NARSSO. In addition to the usual web page information, the NARSSO Web page will contain customer resources, such as downloadable photos of soil profiles and landscapes for many soils in the region and special links and resources for high school land judges. Within the next several weeks, Eddie is slated for Basic Field Conservation training in Greeneville, Mississippi, and NASIS training in Lincoln, Nebraska. As far as we know, Eddie is the first NRCS Soil Scientist in the Southeast to run NASIS on Windows XP. Go Eddie!■

Delivery of Redstone Arsenal Soil Survey

by Doug Clendenon, Soil Survey Project Leader

(Originally printed in "Current Developments," the newsletter of NRCS Alabama.)

In December, Rick Zellmer, Eddie Davis, and I met with personnel from Redstone Arsenal and presented the hard copy, CD, Arcview files, and Soil Data Viewer for the Soil Survey of U.S. Army Redstone Arsenal, Madison County, Alabama. It has been 22 months from the first day of mapping on this project until now.

I've never been a part of a soil survey project that serviced a customer in such a timely manner and with such a great product. I am greatly pleased that in 2002 we are producing soil surveys superior to the reports of the past, and it is exciting to see the infrastructure in place to quickly get products into our customers' hands.

We spent a couple hours with Redstone Arsenal's Natural Resource Division Chief Danny Dunn and his staff demonstrating the Soil Data Viewer and discussing some of the interesting facts about their soil data. By their comments, it was evident that our products exceeded their expectations. ■

Using NASIS Reports for Checking Data

By Scott Anderson, SDQS

By now, most of you should be familiar with how to run NASIS reports and with the wide variety of reports available for our use. The most commonly used reports are those that are formatted for soil survey publications. Some of us are even in the habit of using these same publication reports for routine data editing. But there is another more useful option that really makes data checking a breeze: Data Exports.

Exports are not your typical looking reports that come out nicely formatted on a sheet of paper. Instead, they produce a data dump. The data is most commonly separated, or "delimited," by a comma, semicolon, space, or tab. These reports are not intended for viewing on screen or for printing hard copy. They are designed for merging into other software, such as Access, Excel, or SoilView.

Two such reports that I like to use are "EXPORT_MO15: Horizon Data (coma delimited)" and "EXPORT_MO15: Component Data (coma delimited)." Both of these are located on the MLRA15_Office site of your NASIS Report Manager screen. Downloads of these can easily be merged into Excel, where you can move and delete columns of data and thereby create any number of usable spreadsheets. Here is how it works.

Load your county data set into NASIS. Go to "Options," "Standard Reports," and select one of the reports mentioned above.

Save the report in ASCII format, give it a file name, then retrieve it off the NASIS central computer site. This is the same procedure you use to save and retrieve any report you generate from NASIS. Now this is where the fun part begins.

Start Microsoft Excel. Click on "File," "Open" (make sure the file type is set to "All Files"), and then select the NASIS report you just downloaded. The Excel Import Wizard box will appear. This is where you tell Excel the type of file you are importing. Remember that you are importing a comma delimited file. In the Import Wizard box you check "delimited" and then "Next."

Select "Comma" delimited, then "Finish."

Now you can manipulate the worksheet for quick and easy scanning of data. Columns can be moved around, deleted, or frozen in place—allowing you to scan straight through individual columns of data. This is an excellent way to locate missing data. You can also print out portions of the worksheet to use for pen and ink corrections and then correct the data in NASIS at a latter time. Alternately, you can keep both NASIS and Excel running at the same time and move back and forth, correcting the database as you find errors or missing data.

Try these NASIS export reports for yourself and see how you like them. I guarantee they will make the job of reviewing and editing data a lot easier. ■

Mississippi Mourns the Loss of Melvin Lee

Melvin Lee, Soil Scientist, headquartered in Jackson, Mississippi, died on November 18, 2002, at his residence. Melvin was 47 years of age and had worked for the SCS/NRCS for over 15 years at various locations in Nebraska and Mississippi. He was a member of the Professional Soil Classifiers Association of Mississippi. He is survived by six sisters, one brother, several nieces and nephews, and many other relatives. ■

Editor's Note

Issues of this newsletter are available on the Internet on the MO–15 homepage (http://www.mo15.nrcs.usda.gov/). Click on "MO–15 Items" and then on "The Coastal Plainer, Quarterly Newsletter."

You are invited to submit stories for future issues to Aaron Achen, editor, MO–15, Auburn, Alabama.

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Soil Profile Gallery

The soil profile gallery on the MO–15 Web site contains pictures of over 60 soils. Images include Blackland Prairie soils, Appalachian Plateau soils, Valley and Ridge soils, Piedmont soils, and Coastal Plain soils. Included for each soil listed is a picture of a typical profile, a brief description of the soil, the taxonomic classification of the soil, and a link to the official series description.

The soil profile gallery can be accessed from the homepage at http://www.mo15.nrcs.usda.gov/. Select "MO–15 items" from the navigation bar and then click on "Soil Profile Gallery."

A photo of a soil in the Dothan Series. The soil profile gallery contains soils from over 60 series.

Managing Soil Organic Matter: The Key to Soil, Water, and Air Quality

By William E. Puckett and M. Lee Norfleet

Well, it's been approximately 16 months since I left the job as MO–15 Leader and took over here at the Soil Quality Institute (SQI). I have missed the people in the old job, but I must admit that I have really enjoyed the new one. Reading the article by Charles Adams in the last issue of the Coastal Plainer really hit home about moving around and changing up what you do. It is exciting to have a job that promotes what we do in soil science everyday. Enough sentimental journey, let's get on with managing soil organic matter.

The origins of soil conservation policy in the United States reach back into the early part of the twentieth century and the devastating erosion events of the 1920s and 1930s. The primary societal concern was maintaining a productive agricultural sector. In response to this concern came the concept of tolerable soil loss for agricultural production and the creation of the "T" factor. Towards the latter half of the century, as society became more environmentally conscious, water, air, and, eventually, soil quality became primary concerns. While the concept of managing for tolerable soil loss may still be valid for agricultural productivity, it does not adequately meet societal demands for cleaner water and air and definitely does not lead to enhanced soil quality.

Soil quality is defined as the ability of the soil to function for an intended purpose. Agricultural soils must function at an enhanced level in order to mitigate concerns about water and air quality. Important soil functions, such as regulating water flow and filtering potential pollutants, are negatively impacted by poor soil quality. A key component to improving soil quality and function is soil organic matter.

The key to managing for improved soil quality and ultimately for improved water and air quality is to manage for soil organic matter. Soil carbon is another term for soil organic matter. Managing for soil organic matter is the key because content of carbon is a property that we have the ability to manipulate and that has a major role in the physical, chemical, and biological properties of soil. Most agricultural soils in the Southeast have a very low

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content of soil carbon and have poor soil quality. Excessive tillage, erosion, and monoculture cropping systems are the main reasons for loss of soil quality. Conservation systems that restore soil carbon are critical to improving soils.

Figure 1 roughly illustrates the positive effects that managing for soil carbon have on the soil and the total environment.

Managing for carbon requires the management of crop residues by reducing tillage, rotating crops, and maintaining cover crops. From the start, the increased cover provides a physical barrier that reduces wind-borne particles, minimizes the disruptive force of raindrops, and increases infiltration of water into the soil. As the content of carbon begins to build in the soil, the soil's structure improves through greater aggregation. This improved aggregation provides further resistance to the forces of wind and water and enhances the soil's ability to take in water, thereby providing more water for plant growth and less for runoff.

The reduction in runoff begins the process of improving water quality by reducing sediment and nutrient loads. Air quality is immediately improved through the reduction of dust, allergens, and pathogens. The next improvement over time is in the soil's ability to retain water and nutrients. Compared to inorganic soil particles, organic matter can hold 10 to a 1,000 times more water and nutrients. This characteristic further enhances productivity and resistance to drought and improves the soil's ability to act as a filter that provides cleaner water. The soil's increased ability to retain applied nutrients may also reduce the volatility and emission of gases, such as ammonia from agriculture.

In addition, as the content of organic matter increases, the soil biota becomes more viable and diverse. This subsequently improves the soil's natural ability to fight pathogens and disease without excessive use of pesticides. Studies have also shown that improved management of residues leads to vast improvement in wildlife habitat, particularly for ground-nesting birds.

The rate and degree of changes to soil quality, as well as the suite of practices to achieve best results, vary between different types of soils and climates. However, given sufficient time, productivity and environmental quality will be enhanced through better water and nutrient relations and reduced wind and water erosion. Also, setting an improved content of soil carbon as a management goal can reduce the severity and costs of natural phenomena, such as drought, flood, and disease. All of these benefits are in addition to—and far outweigh—the benefits of reduced greenhouse gases.

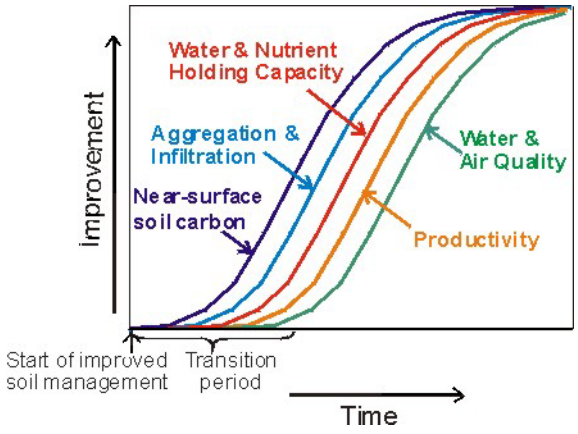

Figure 1.—A graph showing how clean air and water depend on healthy soil. Once a land manager sets improved soil carbon as a goal, a sequence of soil processes and environmental benefits follow.

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The Soil Conditioning Index (SCI) is a new tool for field office staff to predict the effects of management on soil organic matter. The SCI predicts the effects of climate, tillage, biomass production, and erosion on organic matter decomposition. NRCS field office staffs and technical service providers can use the SCI to assist producers in determining if levels of soil organic matter are increasing or deceasing in their crop fields. Field office staffs using SCI will be able to create various scenarios regarding tillage, cropping systems, and erosion and then predict what effects those practices will have on soil organic matter. Achieving a positive SCI on cropland will result in improved soil function by increasing the amount of organic matter in the soil. ■

Web Modernization

By Aaron Achen, Webmaster, MO–15

NRCS is totally overhauling its Web presence. The target date to revise all Web sites for State offices, technical centers, regional offices, and institutes is March 31, 2003. The goals of the NRCS web modernization project are:

- Ensure accessibility via compliance to Section 508,
- Create a consistent Agency identity throughout all sites,
- Improve user access to information, and
- Provide easier navigation between content areas and an enhanced searching capability.

NRCS Web pages will be revised to comply with the requirements of Section 508 of the Rehabilitation Act Amendments of 1998. Section 508 requires that Federal agencies' electronic and information technology is accessible to people with disabilities. Among other obligations, Section 508 requires that government Web sites be compatible with screen-reader software. Screen-reader software translates written text on the screen to spoken words, thereby allowing one to hear what is written on the screen.

NRCS Web pages will be revised to conform to the "NRCS Web Design Style Guide." Fonts, colors, spacing, page layout, global elements, navigation bars, headers, and footers are all dictated by the style manual. The NRCS site at http://www.nrcs.usda.gov/ currently conforms to the style manual.

Before being posted, all pages will be reviewed by the "508 Independent Verification and Validation Committee" and the "Look and Feel Committee." These committees will review the pages before initial posting and before updating. The 508 committee will consist of staff from the NRCS Information Technology Center Test Lab. The Look and Feel Committee will consist of contractors and staff from the NRCS National Headquarters.

The structure of the navigation bars—and therefore the structure of the information—will be standardized. All State sites will have the following categories: About Us, Contact Us, Employee Intranet, News, Programs, Technical Resources, and Partnerships. The MO–15 site will have the first three categories and up to six additional categories.

A search function will be added to NRCS homepages.

NRCS has an aggressive program in place to hit the target date for implementation. Look for significant changes on the Web over the next month.■
